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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2006-25087; Directorate Identifier 2006-NM-053-AD; Amendment 39-14882; AD 2007-01-10]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Boeing Model 747 Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

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**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD), which applies to all Boeing Model 747 airplanes. That AD currently requires a one-time inspection to determine whether the outer cylinder of the wing landing gear has certain part numbers, and replacement of the outer cylinder of the wing landing gear with a new, improved, or reworked part if necessary. That AD also requires removal of the load evening system, if such a system is installed. This new AD requires, for certain airplanes, an additional one-time inspection to determine whether the outer cylinder has a certain other part number. For those certain airplanes, this new AD also requires replacement of the outer cylinder with a reworked or new, improved part and related investigative and corrective actions, if necessary. This AD results from identification of an additional unsafe part. We are issuing this AD to prevent fracture of the outer cylinder of the wing landing gear, which could result in collapse of the wing landing gear.

**DATES:** This AD becomes effective March 2, 2007.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of March 2, 2007.

On September 14, 2004 (69 FR 48359, August 10, 2004), the Director of the Federal Register approved the incorporation by reference of Boeing Service Bulletin 747-32-2472, dated November 30, 2000; and Boeing Service Bulletin 747-32-2131, Revision 2, dated March 15, 1974.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC.

Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for service information identified in this AD.

**FOR FURTHER INFORMATION CONTACT:** Steve Fox, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6425; fax (425) 917-6590.

## **SUPPLEMENTARY INFORMATION:**

### **Examining the Docket**

You may examine the airworthiness directive (AD) docket on the Internet at <http://dms.dot.gov> or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the street address stated in the ADDRESSES section.

### **Discussion**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that supersedes AD 2004-16-05, amendment 39-13761 (69 FR 48359, August 10, 2004). The existing AD applies to all Boeing Model 747 airplanes. That NPRM was published in the Federal Register on June 21, 2006 (71 FR 35581). That NPRM proposed to continue to require a one-time inspection to determine whether the outer cylinder of the wing landing gear has certain part numbers, and replacement of the outer cylinder of the wing landing gear with a new, improved, or reworked part if necessary. That NPRM also proposed to require, for certain airplanes, an additional one-time inspection to determine whether the outer cylinder has a certain other part number. For those certain airplanes, that NPRM also proposed to require replacement of the outer cylinder with a reworked or new, improved part and related investigative/corrective actions, if necessary.

### **Comments**

We provided the public the opportunity to participate in the development of this AD. We have considered the comments that have been received on the NPRM.

### **Request To Delete Compliance Time**

Boeing requests that we revise paragraph (j) of the NPRM so that it reads similar to paragraph (g) of the NPRM. Boeing states that the compliance time of "before further flight after the replacement" is confusing; Boeing is unclear as to whether that phrase applies to a removed outer cylinder or to an airplane on which an outer cylinder has been replaced. Boeing further states that if an affected part has been replaced with a reworked or new, improved part, then no additional work needs to be accomplished on that airplane.

We agree that if all affected outer cylinders are replaced with reworked or new, improved parts, no additional work is necessary on that airplane. The related investigative and corrective actions that we described in the NPRM are instructions for reworking an outer cylinder. We have revised paragraph (j) of this AD to more clearly specify that if a reworked part is installed on an airplane, then the rework must be done by accomplishing all of the related investigative actions and applicable corrective actions in accordance with the referenced service bulletin. We have also deleted the compliance time for accomplishing those actions "before further flight after the replacement."

### **Request To Clarify Paragraph (h)**

Boeing requests that we insert the words "and body" after the word "wing" in paragraph (h) of the NPRM. Boeing states that the load evening system attaches to both the wing and body landing gears and that it must be removed from both.

We agree that the proposed words clarify the requirement to remove the load evening system. We have revised paragraph (h) of this AD as requested by Boeing.

## **Request To Exempt Certain Airplanes**

Boeing requests that the NPRM exempt airplanes delivered after the effective date of this AD from the requirements of paragraphs (f) through (k). As justification, Boeing states that the affected outer cylinders would not be found on newly delivered airplanes during an inspection, since the affected parts are no longer in production and are not currently part of the type design for Model 747 airplanes. Boeing also states that operators have objected to ADs that require inspecting newly delivered airplanes for parts that are known not to exist on those airplanes. Boeing, however, states that because landing gear components are interchangeable among airplanes, paragraph (l) of the NPRM should still apply to all airplanes.

We disagree. The appropriate means of excluding the newly delivered airplanes from the requirements of this AD is to limit the applicability of the AD. However, Boeing has not identified the production date or line number for when it ceased installing the affected outer cylinders in production. Further, as the commenter notes, all airplanes are subject to paragraph (l) of the AD. To delay this action would be inappropriate, since we have determined that an unsafe condition exists and that an inspection must be conducted to ensure continued safety. However, under the provisions of paragraph (m) of this AD, we may consider requests for approval of an alternative method of compliance if we are provided with the production date or line number of when affected outer cylinders were no longer installed on airplanes in production.

## **Request To Publish Service Information**

The Modification and Replacement Parts Association (MARPA) states that, typically, the action stated in the NPRM cannot be accomplished without access to the referenced service information published by the airplane manufacturer. MARPA adds that manufacturer service documents are privately authored instruments generally having copyright protection against duplication and distribution. MARPA notes that when a service document is incorporated by reference into a public document, such as an AD, it loses its private, protected status and becomes a public document. MARPA adds that if a service document is used as a mandatory element of compliance, it should not simply be referenced, but should be incorporated into the regulatory document; by definition, public laws must be public, which means they cannot rely upon private writings. MARPA adds that incorporated by reference service documents should be made available to the public by publication in the Docket Management System (DMS), keyed to the action that incorporates them. MARPA notes that the stated purpose of the incorporation by reference method is brevity, to keep from expanding the Federal Register needlessly by publishing documents already in the hands of the affected individuals; traditionally, "affected individuals" means aircraft owners and operators, who are generally provided service information by the manufacturer. MARPA adds that a new class of affected individuals has emerged, since the majority of aircraft maintenance is now performed by specialty shops instead of aircraft owners and operators. MARPA notes that this new class includes maintenance and repair organizations, component servicing and repair shops, parts purveyors and distributors, and organizations manufacturing or servicing alternatively certified parts under section 21.303 ("Replacement and modification parts") of the Federal Aviation Regulations (14 CFR 21.303). MARPA adds that the concept of brevity is now nearly archaic as documents exist more frequently in electronic format than on paper. Therefore, MARPA asks that the service documents deemed essential to the accomplishment of the NPRM be incorporated by reference into the regulatory instrument, and published in the DMS.

We do not agree that documents should be incorporated by reference during the NPRM phase of rulemaking. The Office of the Federal Register (OFR) requires that documents that are necessary to accomplish the requirements of the AD be incorporated by reference during the final rule phase of rulemaking. This final rule incorporates by reference the document necessary for the accomplishment of the requirements mandated by this AD. Further, we point out that while documents that are

incorporated by reference do become public information, they do not lose their copyright protection. For that reason, we advise the public to contact the manufacturer to obtain copies of the referenced service information.

In regard to the commenter's request that service documents be made available to the public by publication in the Federal Register, we agree that incorporation by reference was authorized to reduce the volume of material published in the Federal Register and the Code of Federal Regulations. However, as specified in the Federal Register Document Drafting Handbook, the Director of the OFR decides when an agency may incorporate material by reference. As the commenter is aware, the OFR files documents for public inspection on the workday before the date of publication of the rule at its office in Washington, DC. As stated in the Federal Register Document Drafting Handbook, when documents are filed for public inspection, anyone may inspect or copy file documents during the OFR's hours of business. Further questions regarding publication of documents in the Federal Register or incorporation by reference should be directed to the OFR.

In regard to the commenter's request to post service bulletins on the Department of Transportation's DMS, we are currently in the process of reviewing issues surrounding the posting of service bulletins on the DMS as part of an AD docket. Once we have thoroughly examined all aspects of this issue and have made a final determination, we will consider whether our current practice needs to be revised. No change to the final rule is necessary in response to this comment.

## Conclusion

We have carefully reviewed the available data, including the comments that have been received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

## Costs of Compliance

There are about 1,106 Model 747 airplanes of the affected design in the worldwide fleet. Of those airplanes, there are about 66 Model 747-100, 747-100B, 747-100B SUD, and 747SR series airplanes of the affected design in the worldwide fleet that are subject to the new actions. The following table provides the estimated costs, at an average labor rate of \$80 per hour, for U.S. operators to comply with this AD.

**Estimated Costs**

<b>Action</b>	<b>Work hours</b>	<b>Parts</b>	<b>Cost per airplane</b>	<b>Number of U.S.-registered airplanes</b>	<b>Fleet cost</b>
Inspection for all airplanes (required by AD 2004-16-05)	1	None	\$80	256	\$20,480
Removal of the load evening system (required by AD 2004-16-05)	240	\$2,392	\$21,592	256	\$5,527,552
Inspection for certain airplanes (new action)	1	None	\$80	21	\$1,680

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in subtitle VII, part A, subpart III, section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The Federal Aviation Administration (FAA) amends § 39.13 by removing amendment 39-13761 (69 FR 48359, August 10, 2004) and by adding the following new airworthiness directive (AD):



**2007-01-10 Boeing:** Amendment 39-14882. Docket No. FAA-2006-25087; Directorate Identifier 2006-NM-053-AD.

### **Effective Date**

- (a) This AD becomes effective March 2, 2007.

### **Affected ADs**

- (b) This AD supersedes AD 2004-16-05.

### **Applicability**

(c) This AD applies to all Boeing Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP series airplanes, certificated in any category.

### **Unsafe Condition**

(d) This AD results from identification of an additional unsafe outer cylinder of the wing landing gear. We are issuing this AD to prevent fracture of the outer cylinder of the wing landing gear, which could result in collapse of the wing landing gear.

### **Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

### **Restatement of Requirements of AD 2004-16-05**

#### *Inspection To Determine Part Number*

(f) Within 36 months after September 14, 2004 (the effective date of AD 2004-16-05), perform a one-time inspection to determine the part number (P/N) of the outer cylinder of the wing landing gear on both sides of the airplane, per the Accomplishment Instructions of Boeing Service Bulletin 747-32-2472, dated November 30, 2000; or Revision 1, dated February 23, 2006. Instead of inspecting the outer cylinder of the wing landing gear, a review of airplane maintenance records is acceptable if the detailed part number of the outer cylinder of the wing landing gear (not just a higher-level assembly) can be positively determined from that review.

(1) If no outer cylinder having P/N 65B01212-( ) (where "( )" is any dash number of that part number), 65B01430-3, or 65B01430-4 is found: No further action is required by this paragraph.

(2) If any outer cylinder having P/N 65B01212-( ) (where "( )" is any dash number of that part number), 65B01430-3, or 65B01430-4 is found: Accomplish paragraph (g) of this AD.

### *Replacement of Outer Cylinder*

(g) For any outer cylinder identified in paragraph (f)(2) of this AD: Within 36 months after September 14, 2004, replace the outer cylinder on the wing landing gear with a new, improved part or a part that has been inspected and reworked per the Accomplishment Instructions of Boeing Service Bulletin 747-32-2472, dated November 30, 2000; or Revision 1, dated February 23, 2006, except as provided by paragraph (k) of this AD. The rework procedures described in the service bulletin, if accomplished, include performing a one-time nital etch inspection of the upper inner surface of the outer cylinder for chrome plating; removing any chrome plating that is present; performing a one-time magnetic particle inspection for cracking of the outer cylinder; performing a nital etch inspection for heat damage of the outer cylinder; reworking the outer cylinder, as applicable; and marking the outer cylinder to indicate that the service bulletin has been accomplished.

### *Removal of the Load Evening System*

(h) For airplanes identified in Boeing Service Bulletin 747-32-2131, Revision 2, dated March 15, 1974: Before performing the requirements of paragraph (g) or (j) of this AD, as applicable, remove the load evening system installed on the wing and body landing gears, per the Accomplishment Instructions of the service bulletin.

### **New Requirements of This AD**

#### *Inspection To Determine Outer Cylinder Part Number on Certain Airplanes*

(i) For Model 747-100, 747-100B, 747-100B SUD, and 747SR series airplanes: Within 36 months after the effective date of this AD, do a one-time inspection to determine the part number of the outer cylinder of the wing landing gear on both sides of the airplane, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-32-2472, Revision 1, dated February 23, 2006. Instead of inspecting the outer cylinder of the wing landing gear, a review of airplane maintenance records is acceptable if the detailed part number of the outer cylinder of the wing landing gear (not just a higher-level assembly) can be positively determined from that review.

(1) If no outer cylinder having P/N 65B01382-( ) is found: No further action is required by this paragraph.

(2) If any outer cylinder having P/N 65B01382-( ) is found: Accomplish paragraph (j) of this AD.

### *Replacement of a Certain Outer Cylinder*

(j) For any outer cylinder identified in paragraph (i)(2) of this AD: Within 36 months after the effective date of this AD, replace the outer cylinder on the wing landing gear with a new, improved part or with a part that has been reworked in accordance with the Accomplishment Instructions of Boeing Service Bulletin 747-32-2472, Revision 1, dated February 23, 2006, as applicable; except as provided by paragraph (k) of this AD. The rework, if applicable, must be done by accomplishing all of the related investigative actions and applicable corrective actions in paragraph 3.B.3. of the Accomplishment Instructions of the service bulletin. If applicable, do the actions specified in paragraph (h) of this AD before accomplishing the actions specified in this paragraph.

## *Exception to Revision 1 of the Service Bulletin*

(k) Where Boeing Service Bulletin 747-32-2472, Revision 1, dated February 23, 2006, specifies that the related investigative and corrective actions may be accomplished using an operator's "equivalent procedure:" The related investigative and corrective actions must be accomplished in accordance with the chapter(s) of the applicable Boeing 747 Standard Overhaul Practices Manual (SOPM) or Overhaul Manual (OHM) specified in the service bulletin.

## *Parts Installation*

(l) As of September 14, 2004, no person may install, on any airplane, an outer cylinder of the wing landing gear if the outer cylinder has P/N 65B01212-( ), 65B01430-3, or 65B01430-4, unless the outer cylinder has been inspected, reworked, and marked to indicate that Boeing Service Bulletin 747-32-2472, dated November 30, 2000; or Revision 1, dated February 23, 2006; has been accomplished. As of the effective date of this AD, no person may install an outer cylinder, P/N 65B01382-( ), of the wing landing gear on any airplane, unless the outer cylinder has been inspected, reworked, and marked to indicate that Boeing Service Bulletin 747-32-2472, Revision 1, dated February 23, 2006, has been accomplished.

## **Alternative Methods of Compliance (AMOCs)**

(m)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

(2) Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD, if it is approved by an Authorized Representative for the Boeing Commercial Airplanes Delegation Option Authorization Organization who has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) AMOCs approved previously in accordance with AD 2004-16-05 are approved as AMOCs for the corresponding provisions of paragraphs (f), (g), and (h) of this AD.

## **Material Incorporated by Reference**

(n) You must use the service information listed in Table 1 of this AD, to perform the actions that are required by this AD, unless the AD specifies otherwise.

**Table 1.—Material Incorporated by Reference**

<b>Service Bulletin</b>	<b>Revision Level</b>	<b>Date</b>
Boeing Service Bulletin 747-32-2131	2	March 15, 1974
Boeing Service Bulletin 747-32-2472	Original	November 30, 2000
Boeing Service Bulletin 747-32-2472	1	February 23, 2006

(1) The Director of the Federal Register approved the incorporation by reference of Boeing Service Bulletin 747-32-2472, Revision 1, dated February 23, 2006, in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.



(2) On September 14, 2004 (69 FR 48359, August 10, 2004), the Director of the Federal Register approved the incorporation by reference of Boeing Service Bulletin 747-32-2472, dated November 30, 2000; and Boeing Service Bulletin 747-32-2131, Revision 2, dated March 15, 1974.

(3) Contact Boeing Commercial Airplanes, P.O. Box 3707, Seattle, Washington 98124-2207, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA). For information on the availability of this material at the NARA, call (202) 741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on December 26, 2006.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. E7-1077 Filed 1-25-07; 8:45 am]